

## CLAIMS:

1. A power plant comprising:

a nacelle cowl having an inlet end and an exhaust nozzle end;

a primary gas turbine engine mounted within said nacelle cowl;

said primary gas turbine engine having a core compartment; secondary power means for providing pneumatic air to at least one load; and

said secondary power means being positioned within said core compartment.

2. A power plant according to claim 1, further comprising:

an inner core cowl being concentrically mounted within said nacelle cowl about the primary gas turbine engine; and

an annular by-pass passage extending between said nacelle cowl and said inner core cowl.

3. A power plant according to claim 2, further comprising

said secondary power means having inlet means for drawing a fluid from said by-pass passage into said secondary power means.

4. A power plant according to claim 3, wherein said inlet is an axial inlet.

5. A power plant according to claim 3, wherein said inlet means comprises a radial inlet plenum.

6. A power plant according to claim 5, wherein said radial inlet plenum comprises a ring member defining a number of air passages extending radially through the core compartment.

7. A power plant according to claim 3, further comprising said secondary power means having outlet means for directing expanded gases into said by-pass passage.

8. A power plant according to claim 3, further comprising a closure member movable between a first position where fluid from said by-pass passage is drawn into said inlet means and a second position where fluid from said by-pass passage is prevented from being drawn into said inlet means.

9. A power plant according to claim 1, wherein said primary gas turbine engine has a compressor section, a combustion section, and a turbine section.

10. A power plant according to claim 1, wherein said secondary power means comprises an auxiliary power unit for providing

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pneumatic air to said at least one load and electrical loads for an aircraft.

11. A power plant according to claim 1, wherein said pneumatic air from said auxiliary power unit is used to start said primary gas turbine engine.

12. A power plant according to claim 1, wherein said secondary power means comprises a gas turbine engine.

13. A power plant according to claim 1, wherein said secondary power means comprises an auxiliary power unit having an environmental control system.

14. A power plant according to claim 1, wherein said secondary power means comprises a power unit which integrates an auxiliary power unit, an energy power unit, an environmental control system, and an engine start system.

15. A power plant according to claim 1, wherein said secondary power means comprises means for heating said primary gas turbine engine.

16. A power plant according to claim 1, further comprising said secondary power means having an inlet for receiving air from said core compartment.

17. A power plant according to claim 1, further comprising a hollow member for allowing ambient air to be drawn into said secondary power means.

18. A power plant according to claim 1, further comprising a hollow member extending from an outlet end of said secondary power means for directing expanded gas to an ambient environment.

19. A power plant comprising:

a nacelle cowl having an inlet end and an outlet end;

a primary gas turbine engine mounted within said nacelle cowl;

said primary gas turbine engine having an aft center-body; secondary power means for providing pneumatic air to at least one load; and

said secondary power means being positioned within said aft center-body.

20. A power plant according to claim 19, further comprising:

a by-pass passage; and

Q14 said secondary power means having inlet means for drawing a fluid flowing through said by-pass passage into said secondary power means.

21. A power plant according to claim 20, further comprising said secondary power means having an outlet for discharging a fluid into an exhaust nozzle.

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